

Sources of Evidence: All That You Leave Behind

National Advocacy Center

May 21, 2003





Information in the Last Century



Paper



Books



Brain



**Ancient
Writings**



Information in the 21st Century



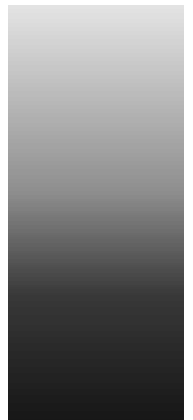
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15% Hard Copy



85%+

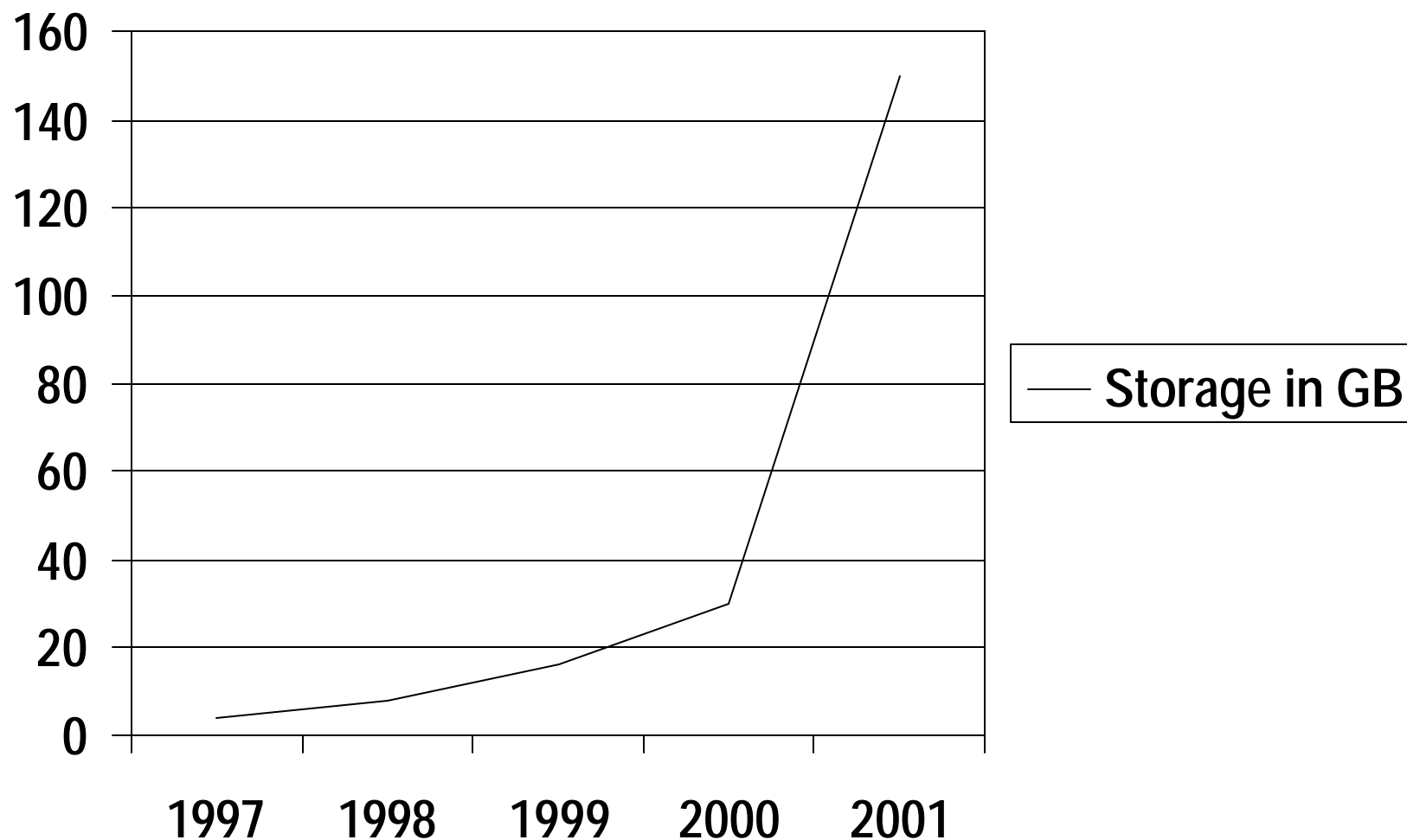


85%+ Electronic Media

*The vast majority of business records
are stored electronically*



Growth of Electronic Information



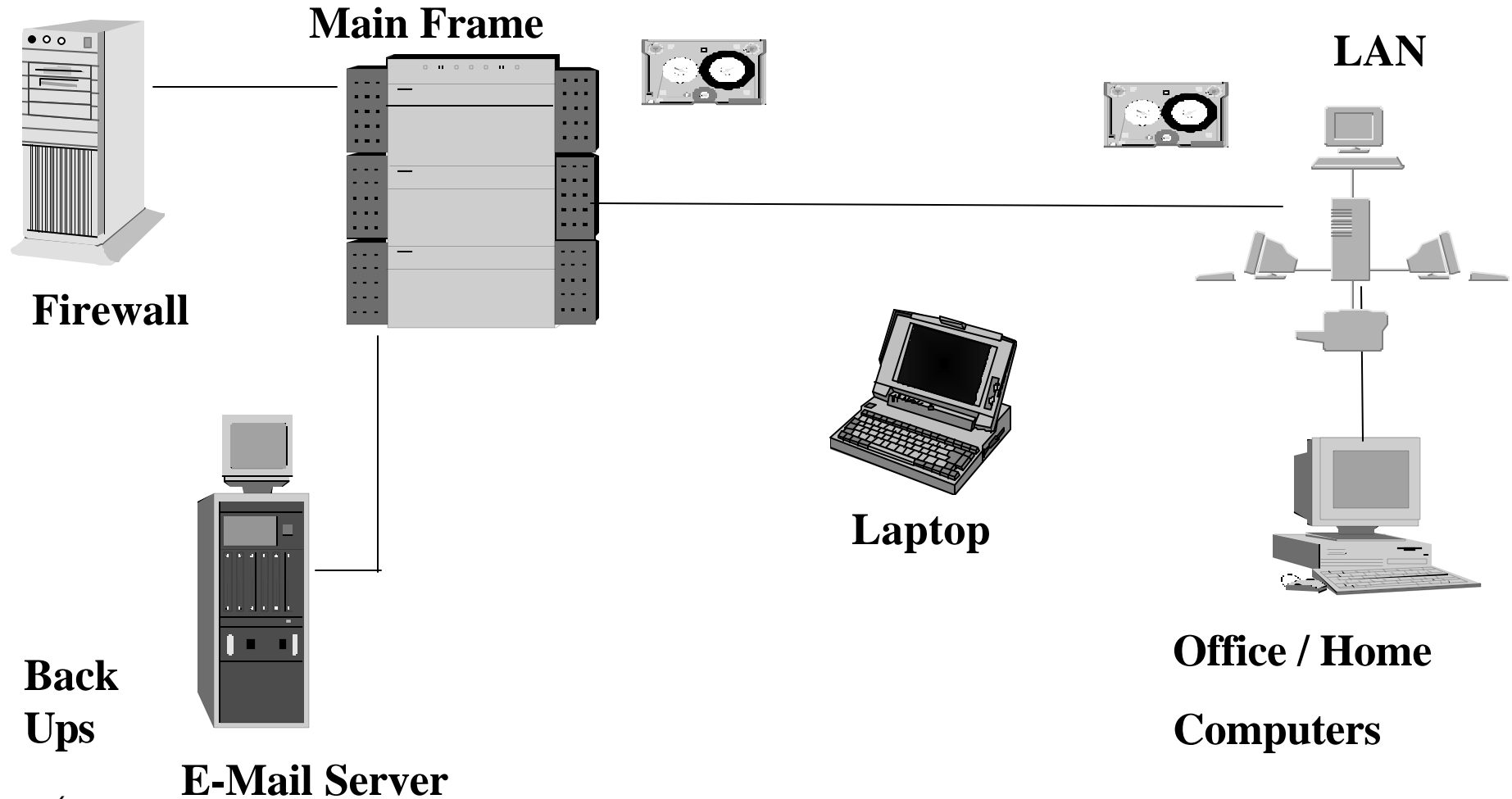


What is Electronic Information

- Any information created or stored in digital form whenever a computer or other machine is used to accomplish a task, such as:
 - Data files (active or archived)
 - Operating systems
 - Application programs
 - Computer generated communications (*e.g.*, e-mail and faxes)
 - Voice mail messages
 - Source and object code
 - Data compilations
- Entire computing environment may contain discoverable electronic information
- Not all relevant data will be stored in-house



Typical Computing Environment





Know Your Network

- What do you own?
- What is outsourced?
- What do you lease (and when do the leases expire)
- Whose data is it anyway?
- Data access costs?
- What licenses must be considered?
- Who administers each relevant environment?
- Are there automated processes that will effect (read ERASE) any data?



1 sales of products and services, the price movement of
2 stock, the introduction of the acquisition of
3 , the stock sales by
4 executive officers, periodic reporting to the
5 SEC, and communications to the analysts and other members

7 2. All other electronic mail and information about
8 electronic mail (including message contents, header information and
9 logs of electronic mail system usage) containing information about
10 the accuracy of the public statements by and its officers,

16 stock, the introduction of the acquisition of
17 the stock sales by executive officers,
18 periodic reporting to the SEC, and communications
19 to the analysts and other members of investment community.
20 3. All data bases (including all records and fields and
21 structural information in such databases) containing any reference
22 to and/or information about the accuracy of the public statements
23 by and its officers, actual targeted or reported
24 financial performance and prospects, the organization and operation
25 of sales force, restructuring and reorganization(s),
26 internal forecasting, budgeting and planning process,
27 demand for and actual or potential sales of products and
28 services, the price movement of stock, the introduction of



Where is Bob's Email?

- Bob's Email Server?
- Backup Tapes of Bob's Email Server?
- Bob's Desktop computer?
- Bob's Laptop Computer?
- Bob's PDA/Pager/Cell Phone?
- Backups of Bob's Devices?
- Regulatory Backups of Servers?
- Bob's Home Computer?
- Bob's Hotmail, AOL, MSN other Personal Accounts?



Moral of Bob's Email Story

- Producing ALL of Bob's email is likely to be impossible.
- Production of all of the email still in Bob's employer's possession, custody and control may not result in production of ALL of Bob's email.
- Production of all of the email still in Bob's employer's possession, custody and control will be expensive and time consuming.
- Production of all of the email still in Bob's employer's possession, custody and control will result in significant duplication within the production set.



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18 periodic reporting to the SEC, and communications

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21 structural information in such databases) containing any reference

25 of sales force, restructuring and reorganization(s),
26 internal forecasting, budgeting and planning process,
27 demand for and actual or potential sales of products and
28 services, the price movement of stock, the introduction of



1 SEC, and communications to the analysts and other members
2 of investment community.

3 6. With regard to electronic data created by
4 application programs which process financial, accounting and
5 billing information, all electronic data files and file fragments

11 demand for and actual or potential sales of (products and
12 services, the price movement of stock, the introduction of
13 the acquisition of the stock sales by
14 executive officers, periodic reporting to the
15 SEC, and communications to the analysts and other members
16 of investment community.

17 7. All files and file fragments containing information
18 from electronic calendars and scheduling programs regarding the
19 accuracy of the public statements by and its officers,
20 actual targeted or reported financial performance and
21 prospects, the organization and operation of sales force,
22 restructuring and reorganization(s), (internal forecasting,
23 budgeting and planning process, demand for and actual or potential
24 sales of products and services, the price movement of
25 stock, the introduction of the acquisition of
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27 periodic reporting to the SEC, and communications
28 to the analysts and other members of investment community.



1 F. On-Line Data Storage On Mainframes And
2 Minicomputers
3 With regard to on-line storage and/or direct access storage
4 devices attached to defendants' mainframe computers and/or
5 minicomputers: will not modify or delete any electronic
6 data files which meet criteria set forth in ¶I.E above, unless a
7 true and correct copy of each such electronic data file has been
made and steps have been taken to assure that such a copy will be

11 With regard to all electronic media used for off-line storage,
12 including magnetic tapes and cartridges and other media which
13 contains any electronic data meeting the criteria listed in ¶I.E
14 above: will stop any activity which may result in the loss
15 of such electronic data, including rotation, destruction,
16 overwriting and/or erasure of such media in whole or in part. This
17 order covers all removable electronic media used for data storage
18 in connection with defendants' computer systems, including magnetic

27 devices and/or media which may be replaced due to failure and/or
28



- 1 upgrade and/or other reasons that may contain electronic data
- 2 meeting the criteria listed in §I.E above.

Cloud Servers Or Stand-Alone Personal Computers And

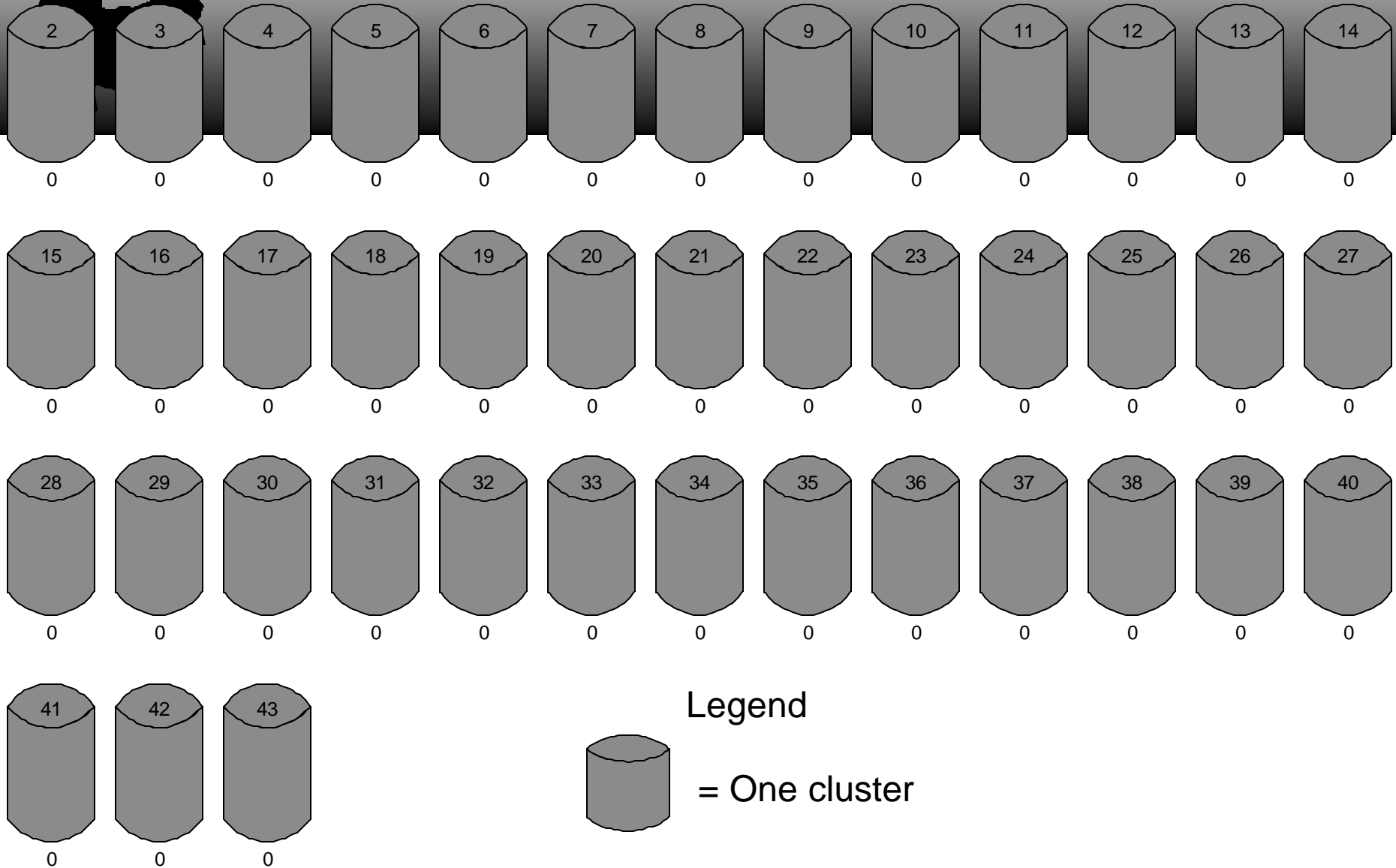
4 With regard to electronic data meeting the criteria listed in
5 §I.E above, which existed on fixed drives attached to stand-alone
6 microcomputers and/or network workstations, will not alter
7 or erase such electronic data, or perform other procedures (such as
8 data compression and disk de-fragmentation or optimization
9 routines) which may impact such data, unless a true and correct

17 will preserve copies of all application programs and
18 utilities which may be used to process electronic data covered by
19 this order.

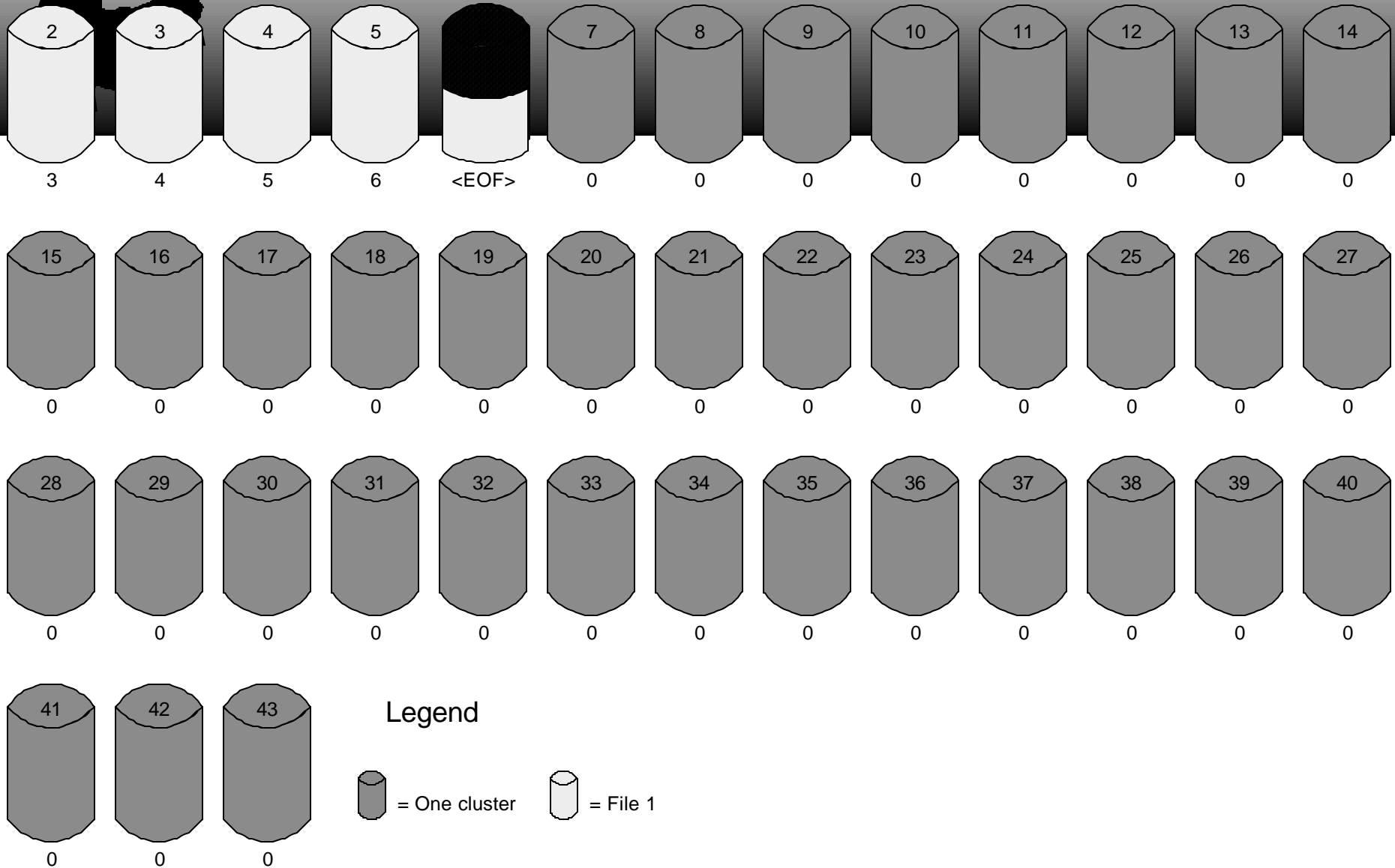
20 K. Log of System Modifications

21 will maintain an activity log to document modifications
22 made to any electronic data processing system that may affect the
23 system's capability to process any electronic data meeting the
24 criteria listed in §I.E above, regardless of whether such
25 modifications were made by employees, contractors, vendors and/or
26 any other third-parties.
27
28

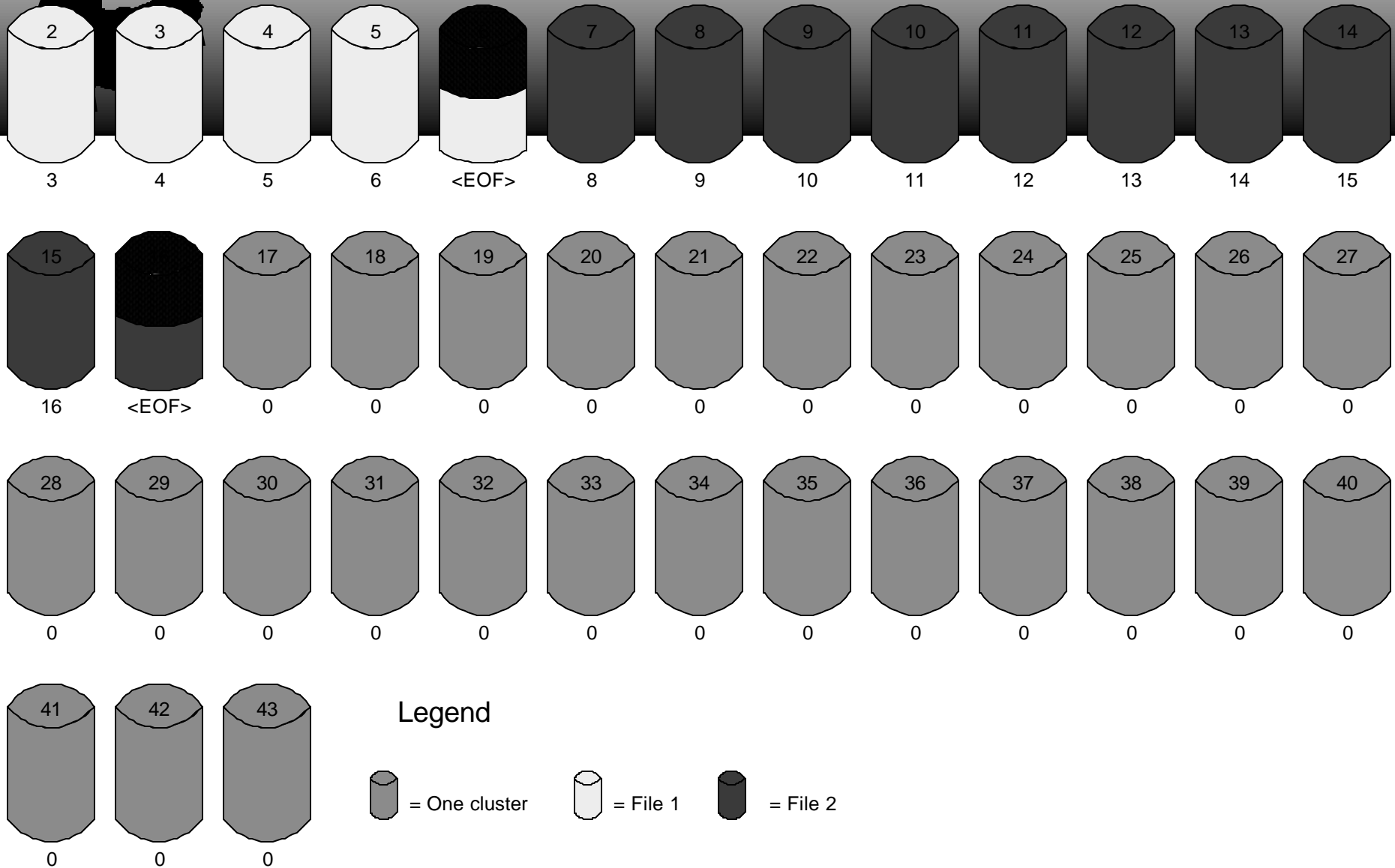
Hard Disk Drive Storage



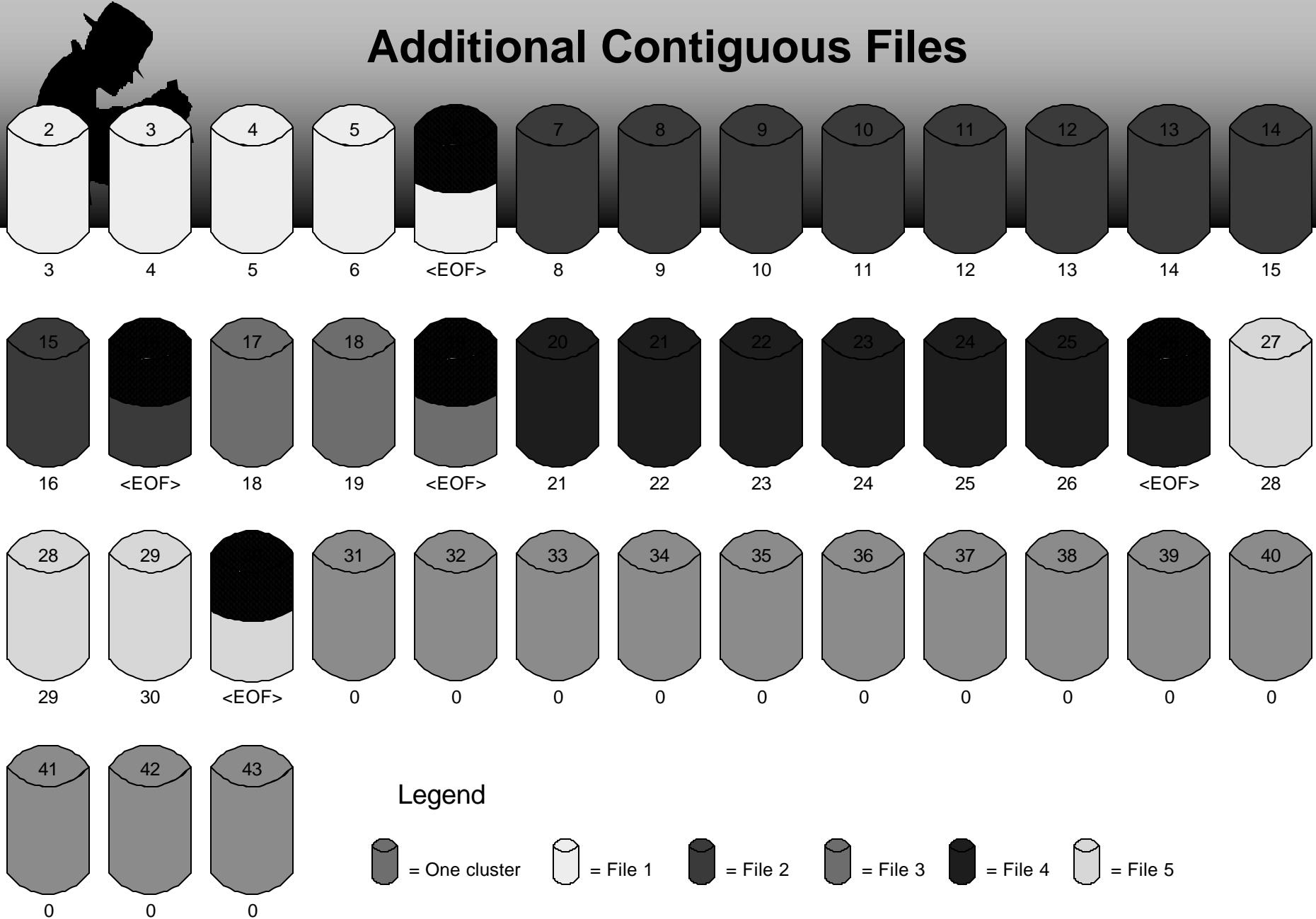
Contiguous File



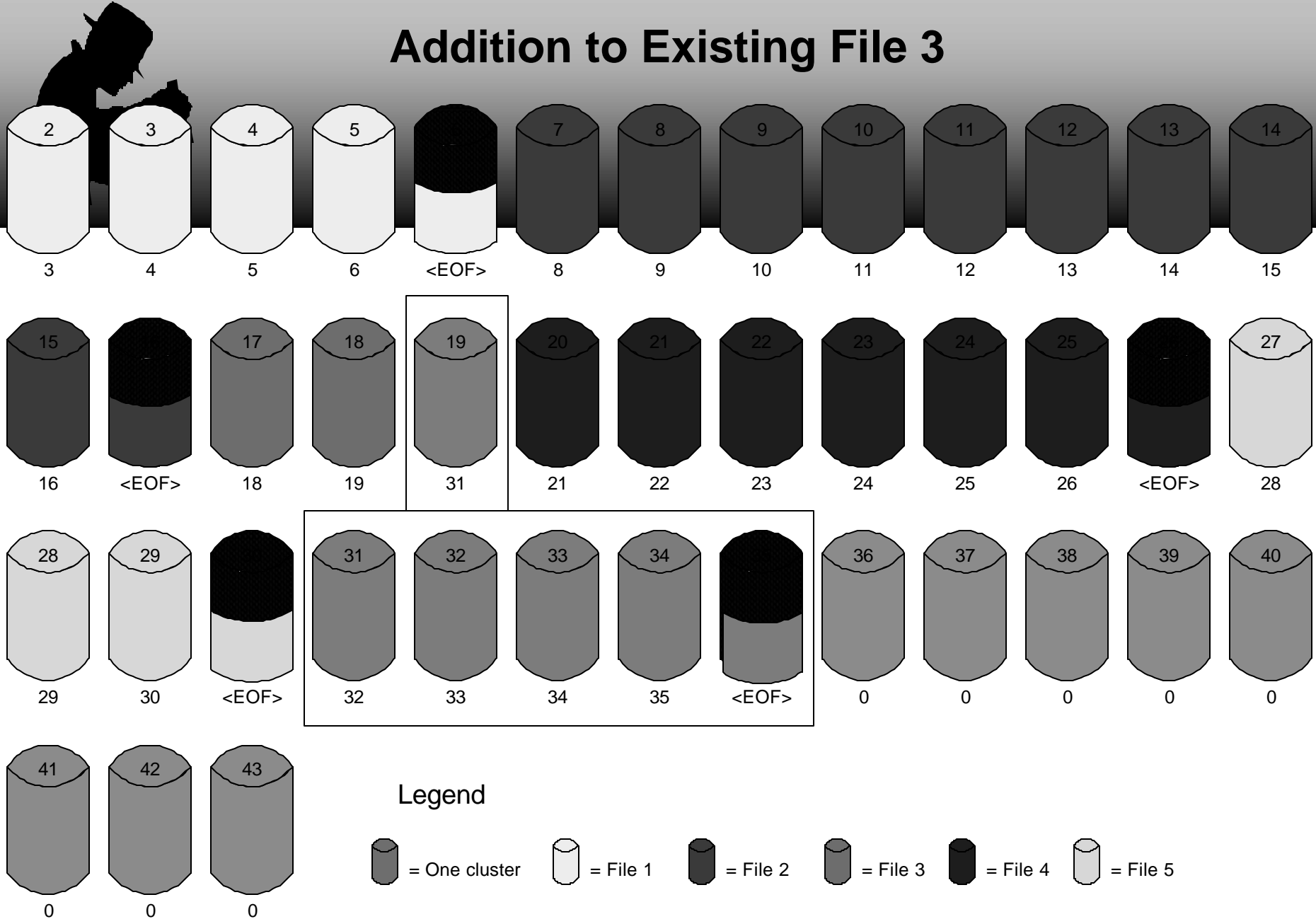
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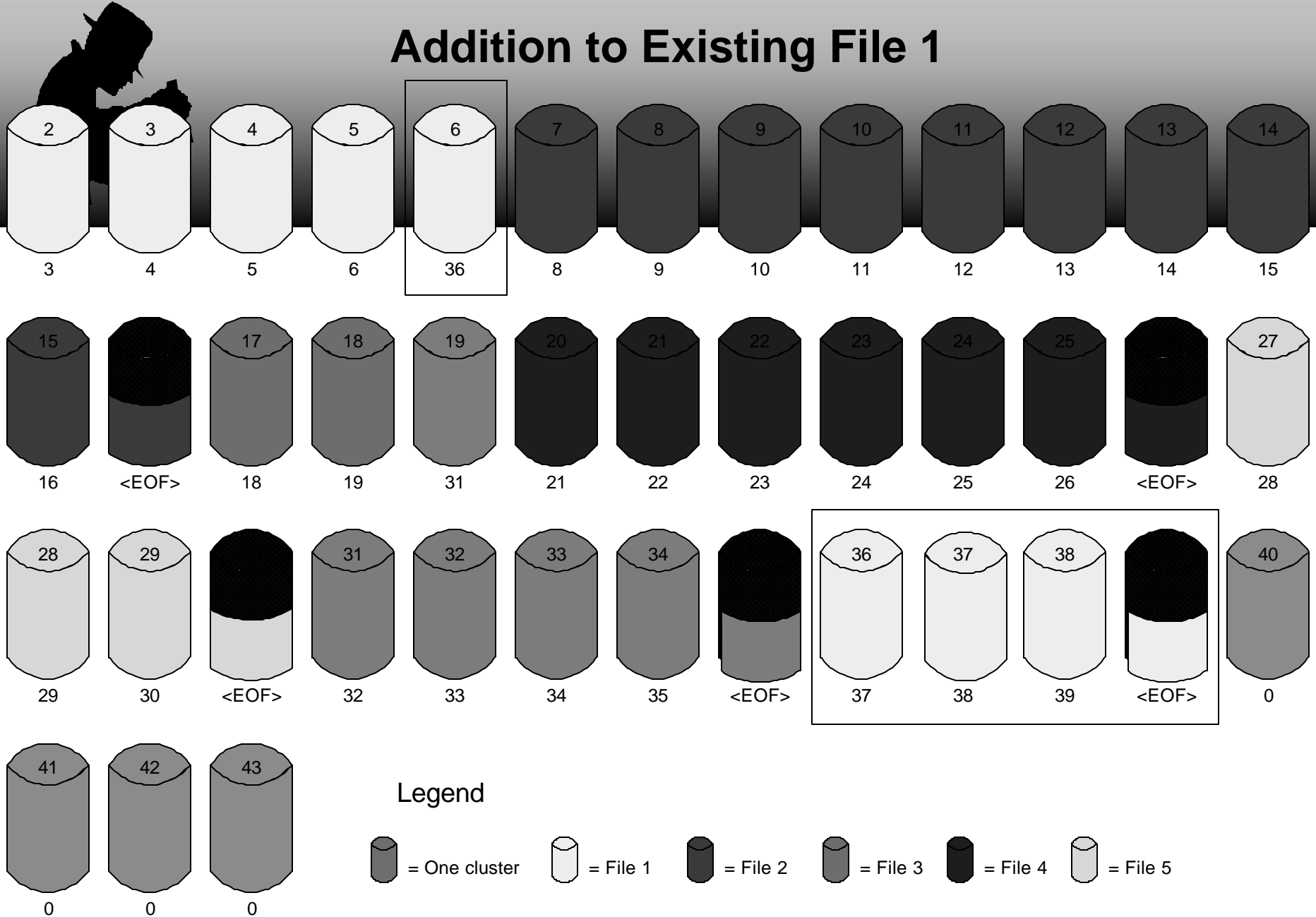
Additional Contiguous Files



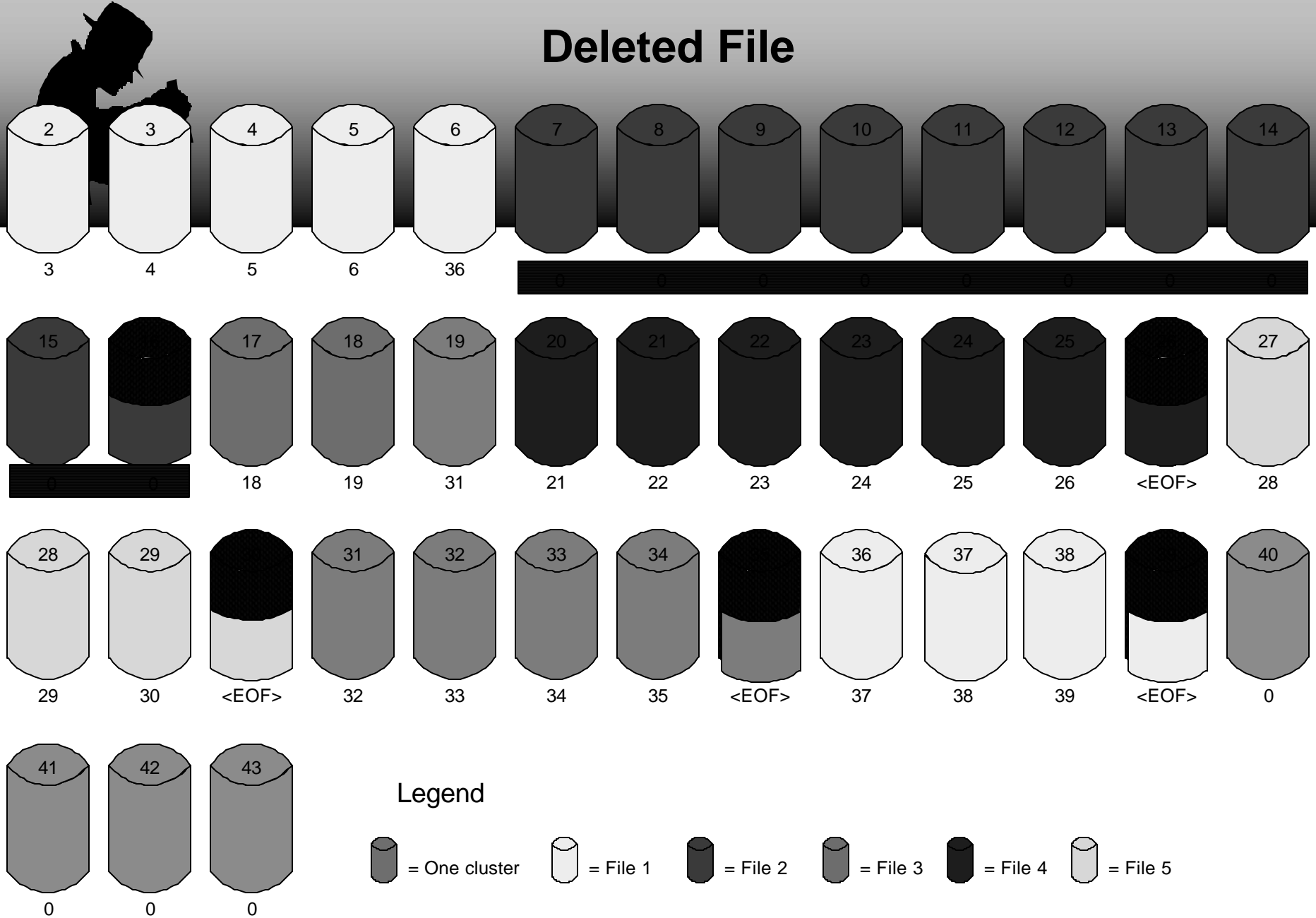
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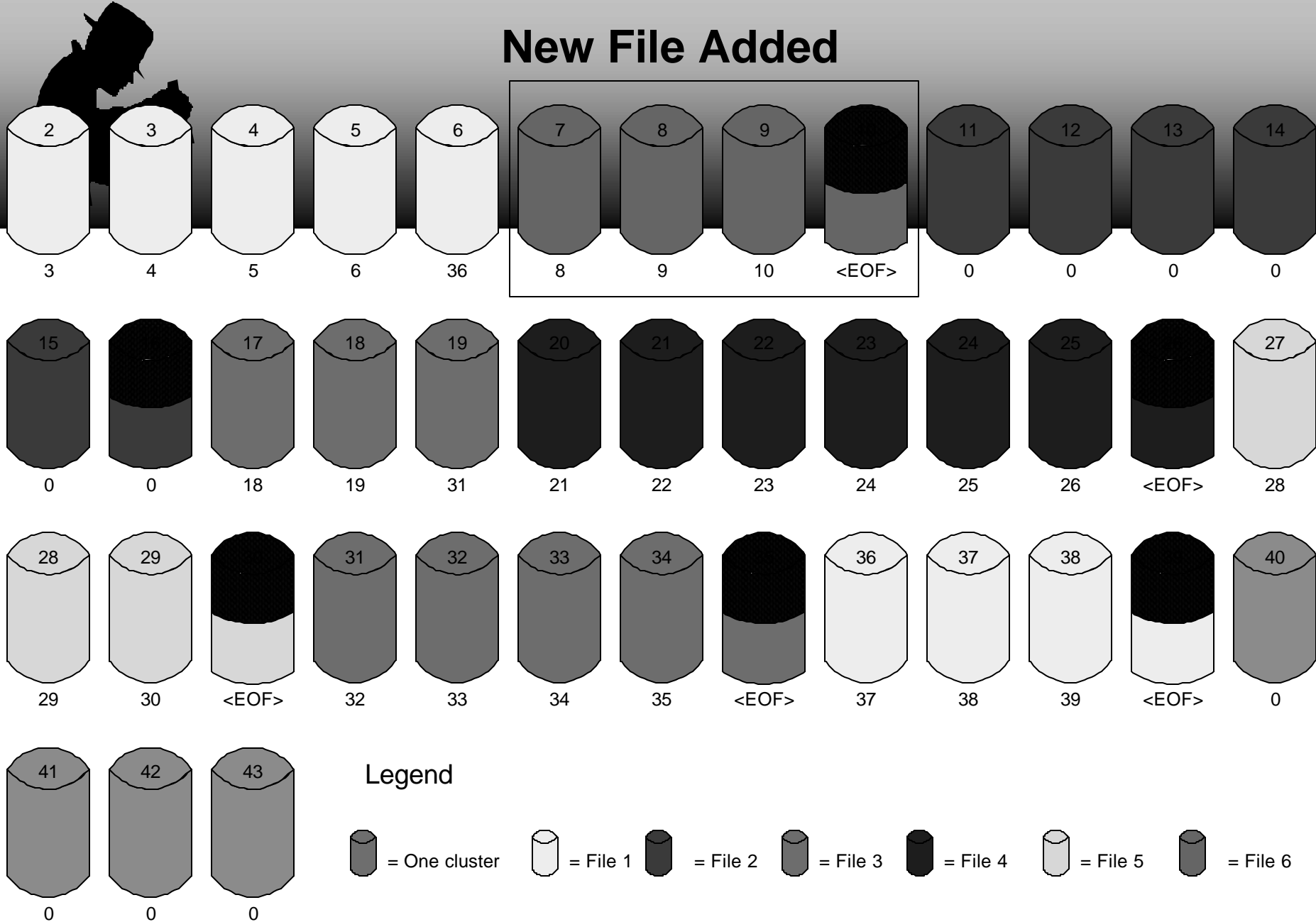
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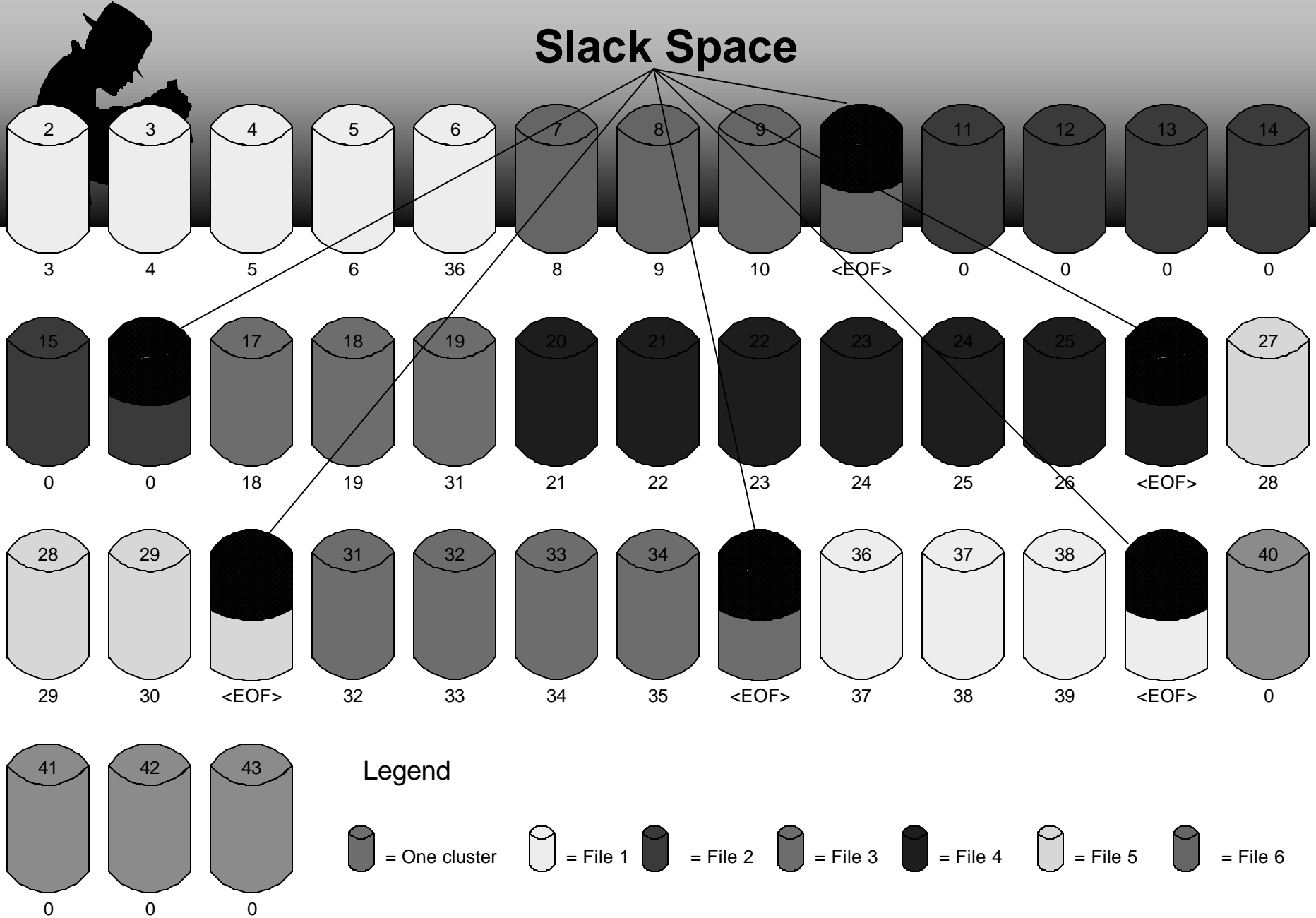
Deleted File



New File Added



Slack Space





Sources Often Overlooked

PDA/Palm top

Contact manager files

Zip and Jazz drives

CD ROMs

Floppy disks

Laptops & personal (home) PCs

Tape backups and restored data

Active computer files

Undeleted (recovered) files

Browser cache and bookmarks

Internet postings

External hard disk drives

Web-based storage “Free Drive”

Minicomputer files

Mainframe computer files

Network server files

“Recipient” E-mail messages

Firewall logs

Email server files

Web-based email (e.g. “Hot Mail”)

Building access control system

CCTV security systems

PBX/CDR reports

Voice mail messages

Dictation: audio tape, rom cards